



PROJECT PROGRESS REPORT

**PREPARED FOR THE ALASKA ENERGY AUTHORITY BY
THE ALASKA CENTER FOR ENERGY AND POWER**

PROJECT TITLE: *Round 2: Emerging Energy Technology Fund – Data Collection*

REPORTING PERIOD: 2nd Quarter 2016

DATE OF REPORT: July 15, 2016

GRANT RECIPIENT: Alaska Center for Energy and Power
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EETF Round 2 Projects

Air Source Heat Pumps, CCHRC

The air source heat pump project is complete, and no further data has been received. Final data analysis is in progress.

Trans-Critical CO₂ Heat Pump, Alaska Sea Life Center

The Alaska Sea Life Center heat pump system has been transferring data to ACEP's server daily since April 12, 2015. ACEP has developed computer code to process these daily data dumps and format the data for analysis.

Multi-Stage Energy Storage System, Chugach Electric Association

ACEP awaits details of the project re-scope from Chugach and AEA.

St. Paul Flywheel Demonstration, TDX

The TDX FESS suffered a mechanical bearing failure in February 2016. ACEP is performing analysis to identify conditions that would have interrupted magnetic bearing operation, causing the mechanical bearing to carry the full axial load of the flywheel. Current analysis of data from February 2015 through February 2016 show 66 flywheel stoppage events and 12 flywheel power outage events. Over this period, the flywheel completed nearly 4 billion revolutions. Further analysis is underway to identify and analyze individual events of interest.